

# YSDH480 SERIES 480W



Yingjiao's higher performance family of single phase din rail power supplies were designed with metal housing and for full range AC input from 90VAC to 264V AC.

With higher efficiency, current sharing up to 3840W(7+1), the entire series have built-in DC OK relay contact and higher peak power, they also operate in wide temperature range.

The series offer diverse solutions for demanding automation around the world.

## Features



Higher Peak Power



Current sharing up to 3840W(7+1)



Built-in DC Ok Relay Contact



Built-in Active PFC Function



DC Output Voltage Adjustable



Three Years Warranty

## Model Information

Yingjiao Part number	DC VOLTAGE	RATED CURRENT (Max.)	RATED POWER	PEAK POWER (Note.4)	VOLTAGE ADJ. RANGE
YSDH480-24	24V	20A	480W	720W (3sec.)	24-28V
YSDH480-48	48V	10A	480W	720W (3sec.)	48-55V

## Input

<b>RATED INPUT (Certified Voltage)</b>	100 ~ 240VAC or 127-370VDC
<b>NOMINAL INPUT VOLTAGE RANGE</b>	90~ 264VAC or 120-380VDC
<b>FREQUENCY RANGE</b>	47 ~ 63Hz
<b>POWER FACTOR (Typ.)</b>	0.94/230VAC at full load 0.99/115VAC at full load
<b>EFFICIENCY (Typ.)</b>	94%
<b>AC CURRENT (Typ.)</b>	5A/115VAC 2.5A/230VAC
<b>INRUSH CURRENT (Typ.)</b>	40A/115VAC 80A/230VAC
<b>LEAKAGE CURRENT</b>	<0.6mA / 240VAC

## Output

<b>RIPPLE &amp; NOISE (max.)</b>	100mVp-p	YSDH480-24
	120mVp-p	YSDH480-48
<b>VOLTAGE TOLERANCE</b>	± 2.0%	
<b>LINE REGULATION</b>	± 0.5%	
<b>LOAD REGULATION</b>	± 1.0%	
<b>SETUP, RISE TIME</b>	1500ms, 150ms/230VAC	at full load
	3000ms, 150ms/115VAC	at full load
<b>HOLD UP TIME (Typ.)</b>	14ms/230VAC	at full load

## Protection

<b>OVER LOAD</b>	Normally works within 110 ~ 150% rated output power for more than 5 seconds and then shut down o/p voltage with auto-recovery >150% rated power, constant current limiting with auto-recovery within 5 seconds and may cause to shut down if over 3 seconds	
<b>OVER VOLTAGE</b>	29~33V	YSDH480-24
	56~65V	YSDH480-48
Protection type : Shut down o/p voltage, re-power on to recover		
<b>OVER TEMPERATURE</b>	105 °C ±5 °C (TSW) detect on heatsink of power switch Protection type : Shut down o/p voltage, recovers automatically after temperature goes down	

## Function

<b>DC OK REALY CONTACT RATINGS (max.)</b>	60Vdc/0.3A, 30Vdc/1A, 30Vac/0.5A resistive load
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## Environment

<b>WORKING TEMP.</b>	-25 ~ +70 °C (Refer to "Derating Curve")
<b>WORKING HUMIDITY</b>	20 ~ 95% RH non-condensing
<b>STORAGE TEMP., HUMIDITY</b>	-40 ~ +85 °C, 10 ~ 95% RH
<b>COLD START</b>	-40 °C
<b>MTBF</b>	969.8K hrs min. Telcordia SR-332 (Bellcore) ; 118.6K hrs min. MIL-HDBK-217F (25 °C)
<b>TEMP. COEFFICIENT</b>	± 0.03% / °C (0 ~ 50 °C)
<b>VIBRATION</b>	Component: 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6

## Safety and Electromagnetic Compatibility

<b>SAFETY STANDARDS</b>	UL508, BS/EN62368-1
<b>WITHSTAND VOLTAGE</b>	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC O/P-DC OK:0.5KVAC
<b>ISOLATION RESISTANCE</b>	I/P-O/P, I/P-FG, O/P-FG:>100M Ohms / 500VDC / 25°C / 70% RH
<b>EMC EMISSION</b>	Compliance to BS EN/EN55032, BS EN/EN61000-3-2,-3
<b>EMC IMMUNITY</b>	Compliance to BS EN/EN61000-4-2,3,4,5,6,8,11, BS EN/EN55024, BS EN/EN61000-6-2 (BS EN/EN50082-2), BS EN/EN61204-3, heavy industry level

## Note

1. All parameters NOT specially mentioned at 230VAC input, rated load and 25°C of ambient temperature.
2. Ripple&noise are measured from peak to peak with band width limit of 20MHz(0.1uF and 47uF/50V parallel capacitor under DC output full load, AC nominal input 25°C ambient temperature).
3. Installation clearances: top with 40mm, bottom with 20mm, left and right with 5mm. Increase the space to 10-15mm when the adjacent device is heat source.
4. It could hold up 3 seconds max when reached peak power 720W, please refer to peak loading curves.
5. Derating may be needed under low input voltage. Please check the derating curve for more details.
6. After 30 minutes of burn-in.
7. The ambient temperature derating of 3.5°C/1000m for operating altitude higher than 2000m(6500ft).

## Dimensions & Weight

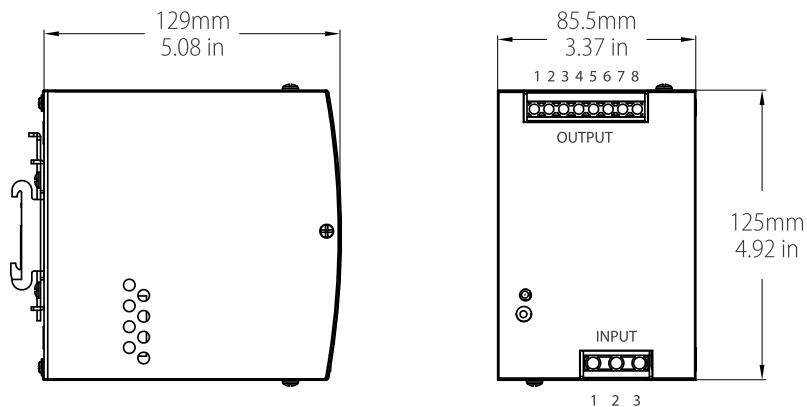
<b>Width:</b>	85.5mm / 3.37in
<b>Height:</b>	125mm / 4.92in
<b>Depth:</b>	129mm / 5.08in
<b>Weight:</b>	1.6kg

## Packing

Carton Size: 49 x 34.5 x 16.5 CM  
19.29 x 13.58 x 6.50 in

Master Carton Quantities: 8pcs / Carton

## Mechanical Specification



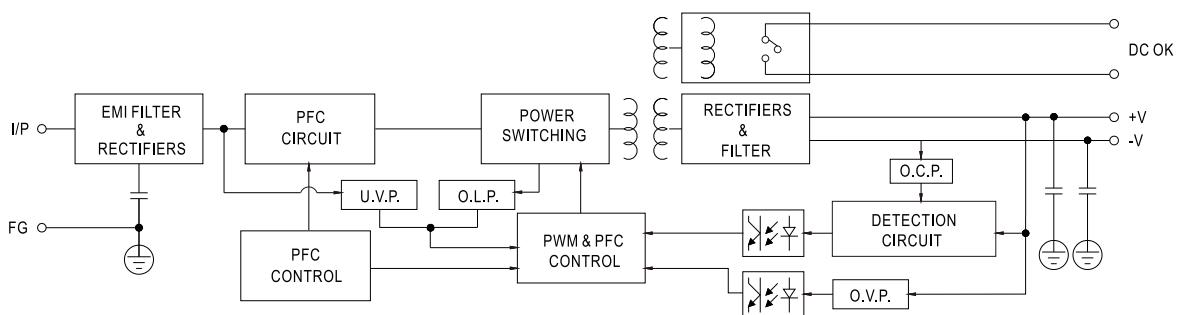
### Input

No.	Description
1	FG (⏚)
2	AC/N
3	AC/L

### Output

No.	Description
1,2	DC OUTPUT +V
3,4	DC OUTPUT -V
5,6	Relay Contact
7	P+ (current share)
8	P- (current share)

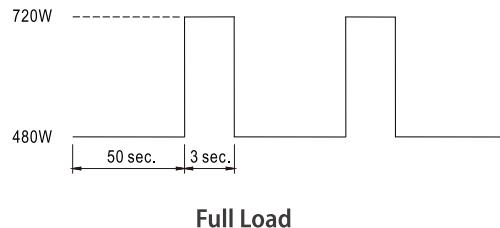
## Block Diagram



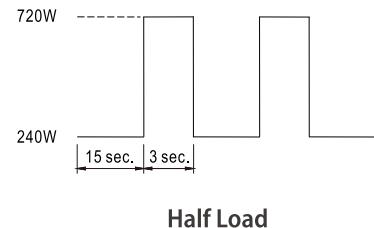
## DC OK Relay Contact

Contact Close	PSU turns on / DC OK.
Contact Open	PSU turns off / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.

## Peak Loading

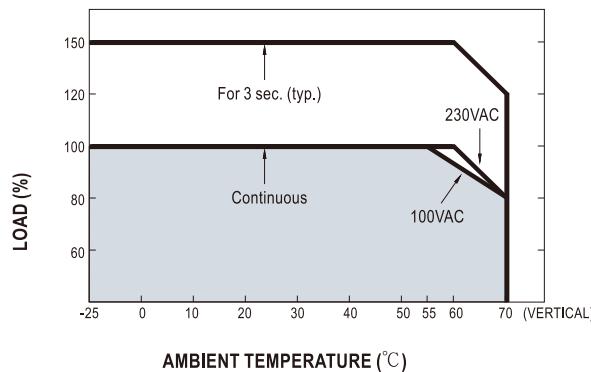


Full Load

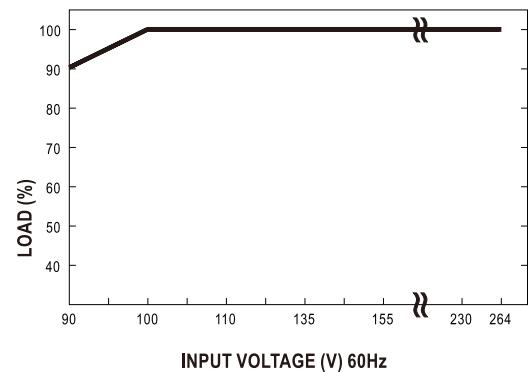


Half Load

## Deduction Curve and Temperature



## Minus Output and Input Voltage Curves



# Note

## Current Sharing

1. Connection type of parallel operation is as follows (P+,P- parallel connection)
2. The output voltage difference between the parallel units should be less than 0.2V
3. The total output current must not exceed the value calculated of the following equation  
(Output current at parallel operation)=(The rated current per unit)\* (Number of unit) x 0.9
4. The maximum quantity of parallel operation is eight units, If need more quantity of parallel operation, please contact the manufacture.
5. In parallel connection, the minimum output load should be more than 3% of total output load  
(Min. load > 3% rated current per unit x number of unit)

